

CLAIM AMENDMENTS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A functional monitoring system, comprising:

a transmitting and receiving station configured to transmit an interrogation code signal; and

a plurality of transponders each configured to respond to the interrogation code signal upon receiving the interrogation code signal by generating and simultaneously transmitting in temporal synchronization a response code signal to said transmitting and receiving station.

Claim 2 (original): The functional monitoring system according to claim 1, wherein said transmitting and receiving station is selectively configured to transmit the interrogation code signal at regular intervals, at irregular intervals, or as a reaction to a triggering event.

Claim 3 (currently amended): The functional monitoring system according to claim 1, wherein each of said transponders

includes a synchronization device effecting a synchronization of a transponder operation with the interrogation code signal received by said transponder, such that the response code signals of said transponders are transmitted in synchronization.

Claim 4 (original): The functional monitoring system according to claim 3, wherein said synchronization device effects a synchronization of the transponder operation to a code signal sequence transmitted with the interrogation code signal.

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Claim 5 (currently amended): The functional monitoring system according to claim 3, wherein said synchronization device effects a synchronization of a transmission code signal generation of said plurality of transponders.

Claim 6 (original): The functional monitoring system according to claim 1, wherein at least one of said transponders contains a subcarrier frequency generator for generating a subcarrier frequency signal, assigned to said transponder, for modulation of a carrier frequency signal common to all of said transponders.

Claim 7 (original): The functional monitoring system according to claim 6, wherein said transponder comprises a carrier frequency generator generating a carrier frequency signal, a first modulator for modulating the subcarrier frequency signal generated by said subcarrier frequency generator with a code signal, and a second modulator for modulating the carrier frequency signal generated by said carrier frequency generator with the output signal output by said first modulator.

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Claim 8 (original): The functional monitoring system according to claim 6, wherein said transmitting and receiving station comprises a plurality of input channels with filters for filtering out frequency components caused by the subcarrier frequency signal.

Claim 9 (original): The functional monitoring system according to claim 1, wherein each of said plurality of transponders contains a subcarrier frequency generator for generating a subcarrier frequency signal, assigned to the respective said transponder, for modulation of a carrier frequency signal common to all of said transponders.

Claim 10 (original): The functional monitoring system according to claim 9, wherein each of said transponders

comprises a carrier frequency generator generating a carrier frequency signal, a first modulator for modulating the subcarrier frequency signal generated by said subcarrier frequency generator with a code signal, and a second modulator for modulating the carrier frequency signal generated by said carrier frequency generator with the output signal output by said first modulator.

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Claim 11 (original): The functional monitoring system according to claim 9, wherein said transmitting and receiving station comprises a plurality of input channels with filters for filtering out frequency components caused by the subcarrier frequency signal.

Claim 12 (original): The functional monitoring system according to claim 1, wherein said transmitting and receiving station forms a part of an access control system.

Claim 13 (original): The functional monitoring system according to claim 1, wherein said transmitting and receiving station is mounted at a motor vehicle and the monitoring system is a motor vehicle access control system.

Claim 14 (currently amended): A method of operating a functional monitoring system having a transmitting and receiving station and a plurality of transponders, the method which comprises:

transmitting an interrogation code signal with a transmitting and receiving station; and

simultaneously, in temporal synchronization, responding with each of a plurality of transponders receiving the interrogation code signal by transmitting a response code signal.

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Claim 15 (original): The method according to claim 14, which comprises transmitting the interrogation code signal at regular time intervals.

Claim 16 (original): The method according to claim 14, which comprises transmitting the interrogation code signal at irregular time intervals.

Claim 17 (original): The method according to claim 14, which comprises transmitting the interrogation code signal as a reaction to a triggering event.

Claim 18 (currently amended): The method according to claim 14, which comprises synchronizing the transponders for transmitting the response code signal in synchronization.

Claim 19 (currently amended): The method according to claim 14, which comprises generating the respective response signals by double modulation with an initial modulation of a subcarrier frequency signal with a ~~an~~ response code signal and a subsequent modulation of a carrier frequency signal, common to all of the transponders, with the modulation output signal obtained in the initial modulation.

Claim 20 (original): The method according to claim 19, which comprises evaluating with the transmitting and receiving station the frequency components caused by the subcarrier frequency signals of the individual transponders in different channels.
